



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,710	04/05/2001	Rajendra Kumar Bera	JP920000136US1	3960

7590

04/24/2003

Anthony England
1717 West Sixth Street
Suite 230
Austin, TX 78703

EXAMINER

EHICHIOYA, FRED I

ART UNIT

PAPER NUMBER

2172

DATE MAILED: 04/24/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/826,710

Applicant(s)

BERA, RAJENDRA KUMAR

Examiner

Fred I. Ehichioya

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 - 7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The application has been examined. Claims 1 - 7 are pending in this office action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5, 7 are rejected under 35 U.S.C 102(b) as been anticipated by U.S. Patent 5,694,593 issued to Baclawski, Kenneth P. (hereinafter "Baclawski").

Regarding claim 1, Baclawski teaches a method for searching data to locate a portion of said data identified by a search query, the method comprising:

receiving a search query including two or more data fragments expected to be contained within said data (see column 2, lines 12 – 13; where "receiving a query", is read on "receives hash query fragment")

searching the data to locate matches between the data and the respective data fragments (see column 2, lines 13 – 14; where "searching the data", is read on "uses the fragment of the query to perform a search"); and

Art Unit: 2172

identifying a minimal portion of said data that contains matches with all of the data fragments (see column 3, lines 51 – 59; where “identifying a minimal portion of said data”, is read on “respond to the query 60 by transmitting (Step 5) the object identifiers (OIDs) 70 matching the index terms of the requested information”).

Regarding claim 5, Baclawski teaches displaying said data upon a display screen and highlighting said identified portion of data (see column 9, lines 40 – 44; “Therefore, if the content label is shown to the user who requested the query, the marked fragments can be distinguished, for example by highlighting, to show the user the reason why the content label was chosen in response to the user's query”).

Claims 7 is essentially the same as claim 1 except that it sets forth the claimed invention as a computer program product comprising a body of computer code for searching data rather than a method for searching data and therefore rejected for the same reasons as applied hereinabove.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2172

5. Claims 2, 3, 4, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,694,593 issued to Baclawski, Kenneth P. (hereinafter "Baclawski") in view of U.S. Patent 5,884,303 issued to Brown, Anthony Peter Graham (hereinafter "Brown").

Regarding claim 2, Baclawski does not explicitly teach identifying a portion of said data containing all of said data fragments and extending between:

an end location which is the location of the first match with that one of said data fragments which is the last to appear in the data; and

a start location which is the location of the match, next preceding said end location, with that one of the said data fragments which is the first to appear in the data.

Brown teaches an end location which is the location of the first match with that one of said data fragments which is the last to appear in the data (see column 4, lines 56 - 57; where "an end location", is read on "position of the end of the fragment" and

a start location which is the location of the match, next preceding said end location, with that one of the said data fragments which is the first to appear in the data (see column 4, lines 48 - 53; where "a start location", is read on "position a pointer at the start").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified teaching of Baclawski combine with the teaching of Brown wherein the start position and end position determine a match of the search

Art Unit: 2172

fragment. The motivation being to enable an extremely high data search rate to be achieved.

Regarding claim 3, Baclawski teaches the steps of:

- (i) receiving said data in a computer memory (see column 1, lines 32 – 42) ;
- (ii) receiving a search query comprising two or more data fragments (see column 2, lines 12 – 13 and column 3, lines 25 – 26);
- (iii) searching the data to locate matches between the data and the respective data fragments (see column 2, lines 13 – 16);
- (iv) recording the memory addresses of said matches (see column 7, lines 29 – 31);

Baclawski does not explicitly teach (v) for each match, identifying any partial overlap with any other match; (vi) for any such partial overlap, searching said data to seek a new match which does not overlap any other match; and (vii) identifying a portion of said data from the location of the first to the last non-overlapping match

Brown teaches (v) for each match, identifying any partial overlap with any other match (see column 5, lines 1 – 2);

(vi) for any such partial overlap, searching said data to seek a new match which does not overlap any other match (see column 4, lines 58 – 63); and

(vii) identifying a portion of said data from the location of the first to the last non-overlapping match (column 5, lines 8 – 14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified teaching of Baclawski combine with the teaching of Brown wherein an entry in the output search list, this entry including the file name, offset and length of the overlap area are created. The motivation being that the offset can also be included in the entry, and used to order the fragment search which consequently minimizes the search time.

Regarding claim 4, Baclawski does not explicitly teach the steps of: (i) storing the data fragments in computer memory as a string variable; (ii) searching the data to locate the first match between the data and each data fragment and, for each data fragment, store the location of that first match as a respective pointer variable; (iii) by reference to the pointer variables and the string lengths of the data fragments determining any partial overlaps between said matches; (iv) for any such partial overlap, searching the data to locate the next match with the relevant data fragment and store the location of that next match in a respective further pointer variable; (v) by reference to said pointer variables determining any remaining partial overlaps between said matches and repeat step (iv) until there is identified a portion of said data containing all of said data fragments without any overlaps therebetween.

Brown teaches (i) storing the data fragments in computer memory as a string variable (see column 3, lines 37 – 41; where “storing the data fragments”, is read on “each stored”);

Art Unit: 2172

(ii) searching the data to locate the first match between the data and each data fragment and, for each data fragment (see column 1, lines 15 – 18), store the location of that first match as a respective pointer variable (see column 3, lines 37 – 41 and column 4, lines 49 – 50);

(iii) by reference to the pointer variables (see column 4, line 51) and the string lengths of the data fragments determining any partial overlaps between said matches (see column 5, lines 1 – 4);

(iv) for any such partial overlap (see column 5, lines 1 – 2), searching the data to locate the next match with the relevant data fragment and store the location of that next match in a respective further pointer variable (see column 4, lines 48 – 53);

(v) by reference to said pointer variables (see column 3, line 57) determining any remaining partial overlaps between said matches and repeat step (iv) until there is identified a portion of said data containing all of said data fragments without any overlaps therebetween (see column 4, lines 64 – 67 and column 5, lines 1 – 2).

Regarding claim 6, Baclawski teaches a system for searching data to locate a portion of said data identified by a search query, the apparatus comprising:

locate matches between the data and the respective data fragments ("Each node on the network which receives a hashed query fragment uses the fragment of the query to perform a search on its respective database", see column 2, lines 12 – 14), and means for registering information identifying a minimal portion of said data that contains

Art Unit: 2172

matches with all of the data fragments (see column 4, lines 19 – 20 and lines 62 – 66; where “means for registering information”, is read on “computer node 28, 32”).

Baclawski does not explicitly teach input means for receiving; a search query including two or more data fragments; data supply means for supplying data to be searched; control means connected to said input means and said data supply means and operable for searching data made available by the data supply means.

Brown teaches input means (see column 3, lines 61 – 63; where “input means”, is read on “parallel search manager”) for receiving a search query including two or more data fragments (see column 1, lines 16 – 18; where “two or more fragments”, is read on “each fragment”);

data supply means for supplying data to be searched (see column 1, lines 43 – 44; where “data supply”, is read on “data storage unit”);

control means connected to said input means and said data supply means and operable for searching data made available by the data supply means (see column 4, line 2; where “control means”, is read on “mapper 22” and column 1, lines 43 – 44; where “data supply”, is read on “data storage unit”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified teaching of Baclawski combine with the teaching of Brown wherein the mapping table represents a file which is mapped to a logical volume, which in turn is mapped to fragments each stored on a separate physical disk. The motivation being to make fragment searching much easier and enables an extremely high data search rate to be achieved.

Art Unit: 2172

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred I.

Ehichioya whose telephone number is 703-305-8039. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on 703-305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-303-3900.

FE
April 18, 2003


JEAN M. CORRIELUS
PRIMARY EXAMINER